

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: NEO-RAY

Report Number: P331949-927

Luminaire Tested: **S123DIP-S560D1195U927-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331949-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S560D1195U927-4F0-1E-UDD-D  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1195 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5653.2 lumens  
Efficiency: N/A  
Efficacy: 114.4 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

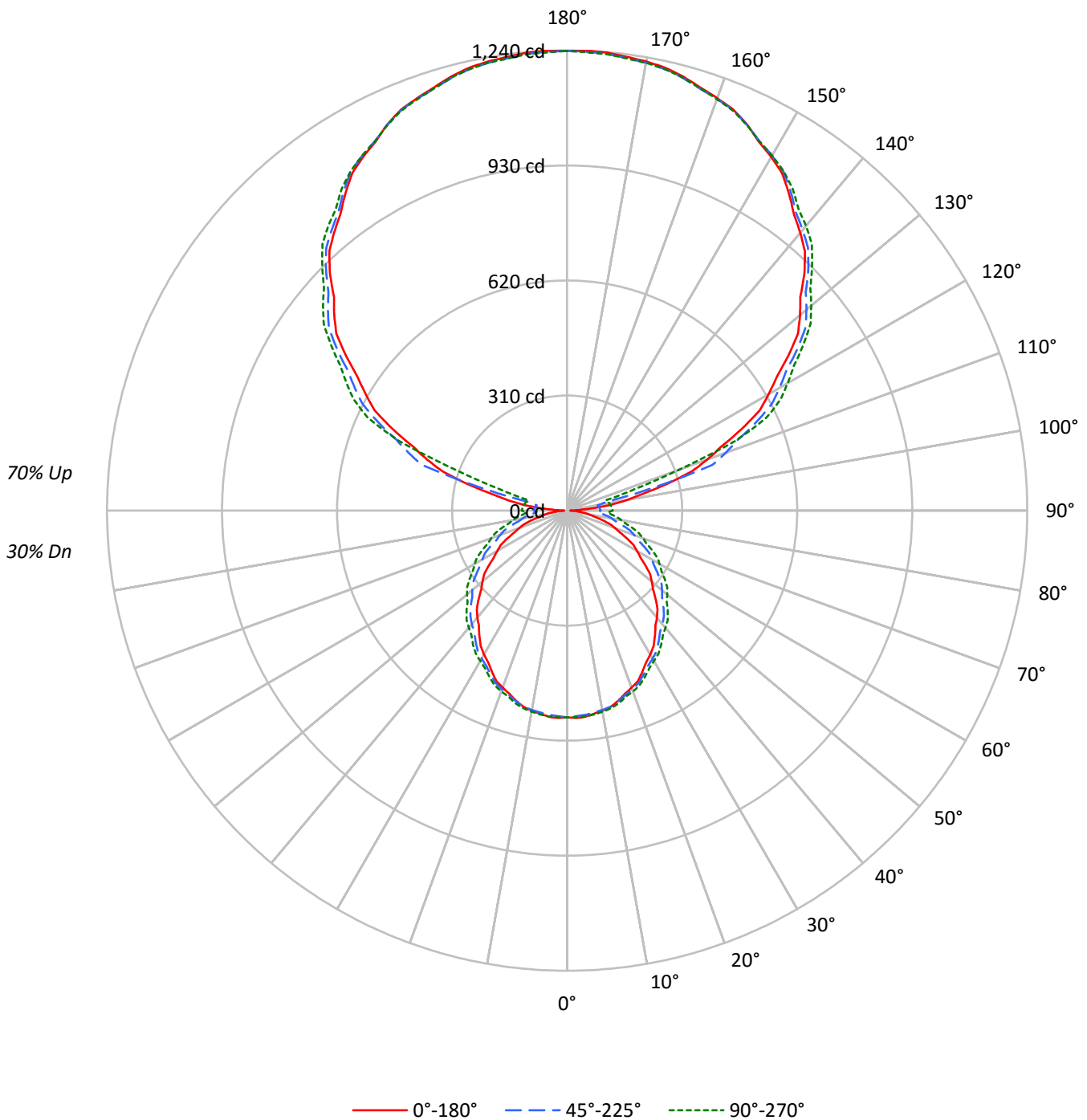
Input Watts (W): 49.4  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



TEST NUMBER: P331949-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	102	102	102	102	92	92	92	92	72	72	72	55	55	55	38	38	38	30
1	93	88	84	81	83	79	76	73	62	60	58	47	45	44	33	32	31	24
2	84	77	70	65	75	69	64	59	54	51	47	41	38	36	28	27	25	20
3	77	67	60	54	68	60	54	49	48	43	40	36	33	30	25	23	21	16
4	70	59	51	45	62	53	47	41	42	37	33	32	28	26	22	20	18	14
5	64	52	44	39	57	47	40	35	37	32	29	28	25	22	20	18	16	12
6	59	47	39	33	52	42	35	30	34	29	25	25	22	19	18	16	14	10
7	54	42	34	29	48	38	31	26	30	25	22	23	20	17	16	14	12	9
8	50	38	31	25	45	34	28	23	28	23	19	21	17	15	15	13	11	8
9	47	35	27	22	42	31	25	21	25	20	17	19	16	13	14	11	10	7
10	43	32	25	20	39	29	22	18	23	18	15	18	14	12	13	10	9	7

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5997	5997	5997
5°	6015	5845	5849
10°	5961	5711	5682
15°	5884	5558	5501
20°	5774	5383	5300
25°	5639	5182	5090
30°	5500	5002	4877
35°	5344	4810	4707
40°	5195	4636	4524
45°	5031	4469	4378
50°	4868	4304	4219
55°	4689	4134	4074
60°	4513	3964	3925
65°	4335	3780	3750
70°	4066	3576	3568
75°	3724	3338	3386
80°	3326	3109	3176
85°	2963	2948	3053



TEST NUMBER: P331949-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	52.8	0.9
10°-20°	150.5	2.7
20°-30°	225.2	4.0
30°-40°	268.9	4.8
40°-50°	281.3	5.0
50°-60°	264.0	4.7
60°-70°	220.5	3.9
70°-80°	157.8	2.8
80°-90°	97.5	1.7
90°-100°	104.1	1.8
100°-110°	258.0	4.6
110°-120°	544.6	9.6
120°-130°	673.1	11.9
130°-140°	709.0	12.5
140°-150°	657.6	11.6
150°-160°	529.2	9.4
160°-170°	341.5	6.0
170°-180°	117.7	2.1
0°-30°	428.5	7.6
0°-40°	697.4	12.3
0°-60°	1242.7	22.0
0°-90°	1718.5	30.4
90°-120°	906.7	16.0
90°-150°	2946.4	52.1
90°-180°	3935.0	69.6
0°-180°	5653.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	558	556	553	557	557	53
15°	531	533	532	538	538	149
25°	479	485	487	495	495	221
35°	413	422	430	439	442	258
45°	337	352	367	378	384	260
55°	257	277	299	315	320	230
65°	178	202	228	246	252	176
75°	96	125	155	175	183	103
85°	30	60	92	112	119	31
90°	9	48	91	114	123	8
95°	63	52	89	113	120	75
105°	279	299	247	110	108	296
115°	518	531	560	583	593	511
125°	727	735	756	770	776	649
135°	904	909	919	932	933	696
145°	1042	1048	1050	1057	1059	652
155°	1148	1146	1147	1151	1146	529
165°	1210	1208	1207	1213	1208	342
175°	1239	1234	1235	1241	1234	118
180°	1239	1239	1239	1239	1239	



TEST NUMBER: P331949-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	559.5	559.2	558.9	558.5	558.2	557.6	556.7	555.9	555.0	554.1	555.0
5°	557.7	557.4	557.1	556.9	556.6	556.0	555.2	554.4	553.7	552.8	553.9
7.5°	552.2	552.2	552.3	552.4	552.5	552.1	551.3	550.5	549.7	548.9	550.2
10°	547.4	547.6	547.9	548.2	548.4	548.3	547.6	546.9	546.2	545.6	546.9
12.5°	541.5	541.9	542.3	542.6	543.0	543.0	542.6	542.1	541.6	541.1	542.4
15°	531.0	531.4	531.8	532.2	532.6	532.7	532.6	532.4	532.3	532.2	533.5
17.5°	517.6	518.4	519.3	520.1	520.9	521.3	521.2	521.1	521.1	521.0	522.2
20°	507.9	508.7	509.5	510.3	511.1	511.7	512.0	512.2	512.5	512.8	514.0
22.5°	497.7	498.5	499.3	500.2	501.0	501.5	501.9	502.3	502.7	503.0	504.6
25°	479.4	480.8	482.1	483.5	484.8	485.7	486.1	486.5	486.9	487.3	489.0
27.5°	461.0	462.5	464.1	465.6	467.1	468.3	469.1	470.0	470.9	471.7	473.2
30°	447.8	449.6	451.3	453.1	454.9	456.3	457.3	458.4	459.5	460.6	462.2
32.5°	433.2	435.2	437.2	439.2	441.2	442.8	444.3	445.6	447.0	448.5	450.2
35°	412.6	414.8	416.9	419.1	421.3	423.3	425.0	426.7	428.5	430.2	432.3
37.5°	390.8	393.2	395.6	398.1	400.5	402.8	405.0	407.1	409.2	411.5	413.8
40°	376.2	378.7	381.1	383.5	386.0	388.5	391.2	393.9	396.6	399.3	401.6
42.5°	360.2	363.2	366.1	369.1	372.1	374.9	377.8	380.6	383.4	386.2	388.7
45°	337.4	340.6	343.9	347.1	350.3	353.6	357.0	360.4	363.8	367.1	369.7
47.5°	313.5	317.2	320.8	324.5	328.1	331.9	335.8	339.6	343.5	347.4	350.2
50°	297.9	301.7	305.5	309.3	313.1	317.0	321.2	325.4	329.5	333.7	336.8
52.5°	281.5	285.4	289.5	293.4	297.4	301.7	306.3	310.9	315.5	320.2	323.4
55°	257.3	261.7	266.2	270.6	275.1	279.7	284.6	289.5	294.3	299.1	302.8
57.5°	233.8	238.4	243.0	247.6	252.3	257.3	262.6	267.9	273.2	278.5	282.2
60°	217.2	222.1	227.0	231.8	236.6	241.9	247.4	252.9	258.4	264.0	267.8
62.5°	201.7	206.7	211.7	216.6	221.6	227.0	232.8	238.7	244.5	250.4	254.1
65°	177.8	183.1	188.3	193.6	198.8	204.5	210.4	216.3	222.2	228.1	232.2
67.5°	153.5	159.1	164.7	170.2	175.9	181.6	187.7	193.8	199.8	205.8	210.2
70°	136.6	142.4	148.1	153.9	159.7	165.9	172.3	178.8	185.3	191.8	196.1
72.5°	121.0	126.8	132.6	138.4	144.2	150.4	157.1	163.8	170.5	177.2	181.6
75°	96.5	102.8	109.2	115.5	121.8	128.4	135.1	141.9	148.6	155.3	159.8
77.5°	75.1	81.5	87.9	94.3	100.7	107.3	114.1	120.9	127.7	134.5	139.2
80°	60.0	66.7	73.3	79.9	86.5	93.3	100.3	107.3	114.4	121.4	126.0
82.5°	47.0	53.7	60.4	67.1	73.8	80.7	87.9	95.0	102.1	109.2	113.8
85°	29.7	36.4	43.3	50.0	56.7	63.6	70.8	78.0	85.1	92.2	96.8
87.5°	16.3	23.4	30.6	37.7	44.8	52.1	59.5	66.9	74.3	81.8	86.5
90°	8.8	17.4	26.1	34.8	43.4	52.5	62.0	71.6	81.1	90.6	96.1
92.5°	24.6	29.9	35.3	40.7	46.1	53.2	61.9	70.7	79.5	88.2	94.0
95°	62.8	59.7	56.6	53.5	50.3	53.2	62.0	70.9	79.8	88.6	94.2
97.5°	118.7	119.8	120.7	121.8	122.7	119.0	110.6	102.2	93.8	85.3	91.0
100°	161.0	169.4	177.8	186.2	194.6	186.0	160.3	134.6	108.8	83.2	88.7
102.5°	209.1	215.9	222.8	229.6	236.5	225.5	196.7	167.9	139.2	110.4	109.2
105°	279.1	284.6	290.1	295.6	301.0	297.5	284.9	272.3	259.7	247.1	214.7
107.5°	352.4	357.0	361.5	366.1	370.6	377.1	385.5	393.9	402.3	410.7	387.8
110°	401.2	405.3	409.4	413.4	417.5	423.3	431.0	438.6	446.3	453.9	450.7



TEST NUMBER: P331949-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	448.4	451.9	455.3	458.8	462.2	467.7	475.1	482.5	490.0	497.4	500.9
115°	517.5	520.4	523.2	526.1	528.9	533.7	540.3	547.1	553.7	560.5	565.7
117.5°	584.9	587.5	589.9	592.5	595.0	599.0	604.5	610.0	615.5	621.0	625.8
120°	626.5	628.9	631.4	634.0	636.5	640.3	645.3	650.4	655.5	660.5	665.3
122.5°	669.2	671.0	672.9	674.7	676.6	680.0	685.1	690.1	695.1	700.1	704.3
125°	727.1	728.7	730.3	732.0	733.6	736.8	741.6	746.2	751.0	755.7	759.0
127.5°	783.8	785.3	786.8	788.3	789.8	792.7	796.9	801.1	805.3	809.5	812.9
130°	819.1	820.6	822.1	823.6	825.1	827.6	831.2	834.6	838.1	841.7	845.0
132.5°	852.5	854.1	855.7	857.3	859.0	861.1	864.0	866.7	869.6	872.4	875.7
135°	904.1	905.1	906.3	907.4	908.5	910.1	912.4	914.7	917.0	919.3	922.4
137.5°	948.2	949.6	951.0	952.5	953.9	955.3	956.6	957.9	959.2	960.4	963.5
140°	977.1	978.3	979.5	980.8	982.0	983.2	984.1	985.2	986.2	987.2	990.1
142.5°	1004.3	1005.4	1006.6	1007.7	1008.8	1009.7	1010.4	1011.1	1011.9	1012.5	1014.9
145°	1042.4	1043.8	1045.0	1046.3	1047.7	1048.5	1048.9	1049.3	1049.7	1050.1	1051.6
147.5°	1077.8	1078.7	1079.7	1080.5	1081.5	1082.2	1082.6	1083.0	1083.4	1083.8	1084.6
150°	1099.9	1100.4	1101.1	1101.7	1102.3	1102.8	1103.2	1103.6	1104.1	1104.5	1104.9
152.5°	1119.7	1120.0	1120.3	1120.5	1120.9	1121.1	1121.3	1121.7	1121.9	1122.1	1122.8
155°	1147.7	1147.3	1146.8	1146.4	1146.1	1146.0	1146.1	1146.4	1146.6	1146.8	1147.8
157.5°	1169.4	1169.3	1169.3	1169.3	1169.3	1169.1	1168.9	1168.7	1168.5	1168.3	1169.6
160°	1182.6	1182.5	1182.3	1182.1	1181.9	1181.6	1181.5	1181.2	1181.1	1180.8	1182.1
162.5°	1195.2	1194.7	1194.1	1193.6	1193.0	1192.7	1192.5	1192.3	1192.1	1191.8	1193.3
165°	1210.3	1209.7	1209.0	1208.5	1207.8	1207.4	1207.2	1207.0	1206.8	1206.6	1208.2
167.5°	1222.1	1221.2	1220.4	1219.6	1218.8	1218.4	1218.4	1218.4	1218.4	1218.4	1220.0
170°	1228.7	1227.9	1227.1	1226.2	1225.4	1225.0	1225.0	1225.0	1225.0	1225.0	1226.6
172.5°	1233.1	1232.2	1231.1	1230.2	1229.2	1228.8	1228.9	1229.1	1229.2	1229.4	1231.1
175°	1238.8	1237.8	1236.8	1235.7	1234.7	1234.3	1234.5	1234.7	1234.9	1235.1	1236.6
177.5°	1240.3	1239.4	1238.7	1237.9	1237.0	1236.7	1236.8	1237.0	1237.2	1237.3	1238.7
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8



TEST NUMBER: P331949-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	557.1	557.1	557.1	557.1	557.1	557.1	557.1	557.1
2.5°	555.9	556.7	557.6	558.0	557.9	557.8	557.7	557.5
5°	555.0	556.0	557.1	557.6	557.5	557.3	557.2	557.1
7.5°	551.6	552.9	554.4	554.9	554.8	554.6	554.4	554.3
10°	548.3	549.6	551.0	551.4	551.2	551.0	550.6	550.4
12.5°	543.7	544.9	546.1	546.6	546.4	546.1	545.8	545.6
15°	534.9	536.2	537.6	538.2	538.1	537.9	537.8	537.7
17.5°	523.5	524.7	525.9	526.4	526.2	526.0	525.9	525.6
20°	515.2	516.4	517.6	518.3	518.4	518.6	518.7	518.8
22.5°	506.1	507.7	509.2	509.9	509.8	509.8	509.7	509.6
25°	490.8	492.6	494.3	495.2	495.2	495.2	495.2	495.2
27.5°	474.8	476.3	477.8	478.6	478.7	478.8	479.0	479.0
30°	463.8	465.4	467.1	467.9	467.9	467.9	467.9	467.9
32.5°	451.9	453.6	455.3	456.4	456.7	457.0	457.3	457.6
35°	434.3	436.3	438.3	439.6	440.1	440.7	441.2	441.8
37.5°	416.0	418.3	420.6	422.0	422.4	422.8	423.3	423.7
40°	403.9	406.2	408.4	409.9	410.4	411.0	411.5	412.0
42.5°	391.2	393.7	396.2	397.8	398.6	399.3	400.1	400.8
45°	372.2	374.8	377.4	379.2	380.2	381.4	382.5	383.5
47.5°	353.2	356.0	358.9	360.8	361.6	362.4	363.3	364.1
50°	339.9	343.1	346.2	348.2	349.1	350.1	351.0	352.0
52.5°	326.6	329.8	333.0	335.2	336.4	337.5	338.7	339.8
55°	306.4	310.1	313.7	316.1	317.2	318.2	319.3	320.4
57.5°	285.9	289.5	293.2	295.6	296.9	298.2	299.4	300.7
60°	271.6	275.3	279.1	281.7	283.2	284.6	286.1	287.6
62.5°	257.9	261.7	265.5	268.1	269.4	270.8	272.2	273.5
65°	236.2	240.3	244.4	247.1	248.4	249.8	251.1	252.5
67.5°	214.7	219.1	223.6	226.3	227.4	228.5	229.7	230.8
70°	200.4	204.7	209.1	211.8	213.2	214.5	215.9	217.2
72.5°	186.0	190.4	194.9	197.8	199.2	200.5	201.8	203.2
75°	164.2	168.7	173.2	176.2	177.8	179.4	181.0	182.7
77.5°	143.9	148.5	153.2	156.2	157.5	158.7	159.9	161.2
80°	130.6	135.1	139.7	142.7	144.0	145.4	146.7	148.1
82.5°	118.4	122.9	127.5	130.6	131.9	133.2	134.6	135.9
85°	101.4	106.0	110.6	113.5	114.9	116.2	117.6	118.9
87.5°	91.3	96.0	100.7	103.8	105.3	106.7	108.1	109.6
90°	101.5	106.9	112.3	115.8	117.6	119.4	121.1	122.9
92.5°	99.8	105.6	111.4	115.0	116.5	118.0	119.5	121.0
95°	99.8	105.4	111.1	114.5	115.9	117.2	118.6	119.9
97.5°	96.6	102.3	108.0	111.5	113.1	114.7	116.2	117.8
100°	94.3	99.8	105.4	108.9	110.4	112.0	113.6	115.1
102.5°	107.9	106.6	105.4	105.6	107.3	109.0	110.7	112.5
105°	182.2	149.8	117.4	102.0	103.6	105.2	106.9	108.4
107.5°	364.8	341.9	318.9	294.5	268.4	242.2	216.2	190.0
110°	447.4	444.2	440.9	425.2	397.0	368.9	340.7	312.6





TEST NUMBER: P331949-927

CATALOG NUMBER: S123DIP-S560D1195U927-4F0-1E-UDD-D

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	504.5	507.9	511.5	510.7	505.7	500.7	495.7	490.8
115°	571.0	576.3	581.5	585.2	587.1	589.0	590.9	592.8
117.5°	630.7	635.6	640.4	643.4	644.6	645.9	647.1	648.2
120°	670.0	674.8	679.5	682.3	683.3	684.2	685.2	686.1
122.5°	708.4	712.5	716.6	719.2	720.3	721.4	722.5	723.7
125°	762.2	765.4	768.7	771.0	772.3	773.6	775.0	776.4
127.5°	816.2	819.5	822.8	824.7	825.2	825.7	826.2	826.7
130°	848.4	851.8	855.2	857.1	857.5	857.9	858.3	858.7
132.5°	878.9	882.2	885.5	887.2	887.6	888.0	888.4	888.7
135°	925.4	928.5	931.5	933.1	933.1	933.2	933.3	933.3
137.5°	966.7	969.8	972.9	974.6	974.9	975.1	975.4	975.7
140°	992.9	995.8	998.5	1000.1	1000.4	1000.7	1000.9	1001.2
142.5°	1017.5	1019.9	1022.4	1023.7	1023.7	1023.8	1024.0	1024.1
145°	1053.1	1054.6	1056.1	1057.1	1057.6	1058.2	1058.8	1059.2
147.5°	1085.3	1086.0	1086.7	1086.9	1086.4	1086.0	1085.5	1085.1
150°	1105.3	1105.6	1106.0	1106.1	1105.7	1105.4	1105.1	1104.7
152.5°	1123.6	1124.3	1125.1	1125.0	1124.1	1123.2	1122.3	1121.4
155°	1148.8	1149.9	1150.9	1150.7	1149.5	1148.3	1147.1	1145.9
157.5°	1170.8	1172.0	1173.2	1173.1	1171.5	1169.8	1168.2	1166.6
160°	1183.3	1184.5	1185.7	1185.7	1184.2	1182.8	1181.3	1179.9
162.5°	1194.7	1196.0	1197.5	1197.5	1196.2	1194.9	1193.7	1192.4
165°	1209.9	1211.5	1213.1	1213.2	1211.8	1210.4	1208.9	1207.5
167.5°	1221.6	1223.3	1225.0	1225.0	1223.3	1221.6	1220.0	1218.4
170°	1228.3	1229.9	1231.5	1231.5	1229.9	1228.3	1226.6	1225.0
172.5°	1232.7	1234.3	1236.0	1235.9	1234.1	1232.3	1230.5	1228.7
175°	1238.0	1239.4	1240.9	1240.7	1239.1	1237.5	1235.9	1234.2
177.5°	1239.9	1241.3	1242.5	1242.4	1240.8	1239.1	1237.5	1235.9
180°	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8	1238.8

(END OF REPORT)